IN THE CLAIMS:

Please amend claims 1, 23, and 31 as indicated below:

1. [Currently Amended] A panelboard configured for distributing electricity from a power source, said panelboard comprising:

circuitry for distributing said electricity from said power source, said circuitry comprising a plurality of branch circuits for distributing electricity to associated loads;

a plurality of branch circuit breakers, each branch circuit breaker intermediate said power source and said plurality of branch circuits; and

~~an~~ single electronic control module for controlling said main circuit breaker and said plurality of branch circuit breakers, said electronic control module provides a protection function and a monitoring function of said circuitry, each branch circuit breaker of said plurality of branch circuit breakers includes:

a pair of separable contacts;

an electromagnetic actuator in electrical communication with said electronic control module for operably controlling said pair of separable contacts; and

a current transformer configured to sense current on said circuitry to one of said associated loads.

2. [Original] The panelboard in claim 1 further including a main circuit breaker for interrupting electricity from said power source; said main circuit breaker including:

a pair of separable contacts;

an electromagnetic actuator in electrical communication with said electronic control module for operably controlling said pair of separable contacts; and

a current transformer configured to sense current on said circuitry through said main circuit breaker.

3. [Original] The panelboard in claim 1 wherein said electromagnetic actuator is a solenoid.

4. [Original] The panelboard in claim 1 wherein said protection function provided by said electronic control module allows for setting a trip setting value for said each branch circuit breaker.

5. [Original] The panelboard in claim 2 wherein said protection function provided by said electronic control module allows for setting a trip setting value for said main circuit breaker.

6. [Original] The panelboard in claim 4 wherein said trip setting value includes at least one of:

long time pick-up,

long time delay,

short time pickup,

short time delay, and

trip time curve.

7. [Original] The panelboard in claim 1 wherein said electronic control module includes a high current alarm function.

8. [Original] The panelboard in claim 1 wherein said electronic control module includes a breaker trip alarm.

9. [Original] The panelboard in claim 1 wherein said electronic control module includes a ground fault trip function.

10. [Original] The panelboard in claim 1 wherein said electronic control module includes a remote communication functionality.

11. [Original] The panelboard in claim 1 wherein said electronic control module includes a ground fault alarm.

12. [Original] The panelboard in claim 1 wherein said each branch circuit breaker includes:

a magnet in electrical communication with said circuitry; and

an armature in electromagnetic communication with said magnet, said armature for operably controlling said pair of separable contacts.

13. [Original] The panelboard in claim 12 wherein said armature operably opens said pair of separable contacts indicative of a short circuit.

14. [Original] The panelboard in claim 2 wherein said current transformer provides electric power to said electronic control module.

15. [Original] The panelboard in claim 13 wherein said electric power provides an actuation voltage to a trip module for actuating said electromagnetic actuator.

16. [Original] The panelboard in claim 2 wherein said monitoring function provided by said electronic module includes a signal received from each said current transformer, said signal is processed by said electronic module indicative of current flow through said circuitry.

17. [Original] The panelboard in claim 16 wherein said electronic module outputs a signal for remote monitoring of said each branch circuit breaker.

18. [Original] The panelboard in claim 10 wherein said remote functionality includes a host controller, and said host controller is in communication with said electronic control module via a local area network.

19. [Original] The panelboard in claim 18 wherein said host controller is programmed for monitoring said electronic control module.

20. [Original] The panelboard in claim 18 wherein said host controller is connected via an Internet connection to a remote computer such that said remote computer is capable of monitoring said electronic control module.

21. [Original] The panelboard in claim 18 wherein said host controller is programmed to download trip setting values to said electronic control module.

22. [Original] The panelboard in claim 18 wherein said host controller is connected via an Internet connection to a remote computer such that

said remote computer is capable of downloading said trip setting values to said electronic control module.

23. [Currently Amended] An electronic control module ~~in~~ connected to a plurality of circuit breakers employed in a panelboard, the electronic control module comprising:

a single microcontroller configured to operably monitor and control said plurality of circuit breakers, said microcontroller configured to provide a trip signal to a circuit breaker of said plurality of circuit breakers in response to an overcurrent condition in said circuit breaker;

an input device configured to select one of said plurality of circuit breakers for inputting a trip setting value for said selected one of said plurality of circuit breakers, said input device in communication with said microcontroller;

a display in communication with said microcontroller; and

a storage device for storing said trip setting value for each of said plurality of circuit breakers.

24. [Original] The electronic control module in claim 23 wherein said input device includes:

a first keypad for selecting one of said plurality of circuit breakers;

a second keypad for inputting a trip setting value for said selected one of said plurality of circuit breakers, said first and second keypads are in communication with said microcontroller.

25. [Original] The electronic control module in claim 23 further comprising:

a communications port in communication with said microcontroller.

26. [Original] The electronic control module in claim 23 wherein said trip setting value includes at least one of:

long time delay,

short time delay, and

trip time curve.

27. [Original] The electronic control module in claim 23 wherein said display includes an indicator indicating the status of said one of said plurality of circuit breakers selected with said input device.

28. [Original] The electronic control module in claim 23 wherein said plurality of circuit breakers comprise a main circuit breaker and a plurality of branch circuit breakers.

29. [Original] The electronic control module in claim 28 wherein a ground fault through said main circuit breaker is sensed by a neutral current transformer disposed around a neutral line strap in the panelboard, a signal from said neutral current transformer is received by the electronic control module for processing to determine the presence of said ground fault

30. [Original] The panelboard in claim 1 wherein said each branch circuit breaker includes an electrical connector configured to provide electrical connection with said electronic control module before electrically connecting to said circuitry, thus operably controlling said pair of contacts before said power source is connected when installing said each branch circuit breaker.

31. [Currently Amended] A method for providing overcurrent protection and control to an electric circuit with a single controller, the method comprising:

receiving a trip setting value selected for each branch circuit of a plurality of branch circuits in the single controller;

storing said trip setting value in non-volatile memory;

receiving a plurality of sensed signals from a current sensing device employed in said each branch circuit indicating a current therethrough;

processing said plurality of sensed signals to detect an overcurrent condition in said each branch circuit; and

generating a trip signal to an electromagnetic device coupled to separable contacts employed in each circuit breaker of said each branch circuit for interrupting current therein when an overcurrent condition is detected.

32. [Original] The method of claim 31 further comprising:

generating an alarm when any of said each circuit breaker is tripped.

33. [Original] The method of claim 31 further comprising:

processing said plurality of sensed signals to detect a high current condition in said each branch circuit; and

generating an alarm for any high currents detected in any of said each branch circuit.

34. [Original] The method in claim 31 wherein said each circuit breaker includes a main circuit breaker for interrupting current in the electric circuit.

35. [Original] The method in claim 31 further comprising:

displaying each of said plurality of sensed signals and said trip setting value selected via a display connected with said controller for monitoring a current condition in said each branch circuit.

36. [Original] The method in claim 31 wherein said trip setting value includes:

long time delay,

short time delay, and

trip time curve.

37. [New] A panelboard configured for distributing electricity from a power source, said panelboard comprising:

circuitry for distributing said electricity from said power source, said circuitry comprising a plurality of branch circuits for distributing electricity to associated loads;

a plurality of branch circuit breakers, each branch circuit breaker intermediate said power source and said plurality of branch circuits; and

an single electronic control module for controlling said main circuit breaker and said plurality of branch circuit breakers, said electronic control module provides a protection function and a monitoring function of said circuitry, each branch circuit breaker of said plurality of branch circuit breakers includes:

a pair of separable contacts as a sole switching means in said each branch circuit breaker;

an electromagnetic actuator in electrical communication with said electronic control module for operably controlling said pair of separable contacts; and

a current transformer configured to sense current on said circuitry to one of said associated loads.